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MARINE CORPS WASHINGTON DC  
DRAFTING, SURVEYING AND MAPPING TASK ANALYSIS.(U)  
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# LEVEL II

## DRAFTING, SURVEYING AND MAPPING TASK ANALYSIS.

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UNITED STATES MARINE CORPS

TASK ANALYSIS PROGRAM

QUESTIONNAIRE BOOKLET

INTRODUCTION

✓ YOU HAVE BEEN SELECTED TO PARTICIPATE IN A STUDY ON THE BASIS OF YOUR CURRENT JOB ASSIGNMENT. THE INFORMATION YOU FURNISH WILL BE OF GREAT VALUE TO THE MARINE CORPS IN FUTURE DECISIONS ON: (1) OCCUPATIONAL FIELD STRUCTURE, (2) TRAINING, (3) CLASSIFICATION, AND (4) ASSIGNMENT POLICY.

THIS QUESTIONNAIRE WAS CONSTRUCTED FROM ON-THE-JOB OBSERVATIONS AND INTERVIEWS WITH MARINES PERFORMING DUTIES AND TASKS SIMILAR TO THOSE YOU PERFORM. IT IS DESIGNED TO DETERMINE WHAT YOU DO IN YOUR PRESENT JOB.

THIS IS NOT A TEST. NEITHER YOU, YOUR COMMANDER, NOR YOUR UNIT WILL BE EVALUATED, IN ANY WAY, ON THE INFORMATION YOU PROVIDE. YOUR INDIVIDUAL ANSWERS WILL BE HELD IN THE STRICTEST CONFIDENCE.

✓ THE RESULTS OF THE INFORMATION YOU PROVIDE IN THIS QUESTIONNAIRE WILL BE OF BENEFIT TO YOU AND OTHER MARINES IN YOUR OCCUPATIONAL FIELD. THEREFORE, PLEASE BE AS STRAIGHTFORWARD, ACCURATE AND FRANK AS POSSIBLE. ALL ANSWERS SHOULD BE BASED ON YOUR PRESENT JOB ASSIGNMENT.

THERE ARE FIVE PARTS TO THE QUESTIONNAIRE:

PART I BACKGROUND INFORMATION SECTION  
PART II TASK SECTION  
PART III JOB SATISFACTION/DISSATISFACTION SECTION  
PART IV WRITE-IN SECTION  
PART V REMARKS SECTION

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### GENERAL INSTRUCTIONS

1. READ ALL INSTRUCTIONS CAREFULLY.
2. USE ONLY THE PENCIL PRESENTED TO YOU BY THE QUESTIONNAIRE ADMINISTRATOR TO MARK YOUR ANSWER. DO NOT USE A PEN OR COLORED PENCIL.
3. DO NOT MARK OR WRITE OUTSIDE OF THE RESPONSE BOXES AND CIRCLES IN THE FIRST 3 SECTIONS OF THE ANSWER BOOKLET.
4. IF IT IS NECESSARY TO CHANGE AN ANSWER BE SURE TO ERASE IT COMPLETELY.
5. YOU WILL BE GIVEN AS MUCH TIME AS YOU NEED TO COMPLETE THIS TASK SURVEY QUESTIONNAIRE.
6. DO NOT FOLD OR CREASE THE ANSWER BOOKLET.
7. ASK YOUR SURVEY ADMINISTRATOR IF YOU HAVE ANY QUESTIONS REGARDING THE TASK BOOKLET OR THE CODED ANSWER BOOKLET.

NOW TURN TO PAGE 3 OF THIS QUESTIONNAIRE BOOKLET FOR INSTRUCTIONS ON HOW TO COMPLETE PART I.

PART I - BACKGROUND INFORMATION SECTION

INSTRUCTIONS FOR COMPLETING PART I OF THE ANSWER BOOKLET:

QUESTIONS IN THIS SECTION REQUIRE YOU TO BLACKOUT THE NUMBER OR FILL IN A CIRCLE FOR YOUR DESIRED RESPONSE.

E X A M P L E S

2 SEX

MALE ☒  
FEMALE 2

18. DO YOU HAVE A MILITARY DRIVERS LICENSE.

YES ☐  
NO ☒

EXAMPLE MOS (3215)

PRIMARY MOS			
0	0	0	0
1	1	<input checked="" type="radio"/>	1
2	<input checked="" type="radio"/>	2	2
<input checked="" type="radio"/>	3	3	3
4	4	4	4
5	5	5	<input checked="" type="radio"/>
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

NOW, TURN TO PAGE 1 (PART I - BACKGROUND INFORMATION SECTION) IN THE ANSWER BOOKLET AND BEGIN FILLING IN RESPONSES TO QUESTIONS 1 TO 13.  
BE SURE TO ANSWER EACH ITEM.

NOTE: THE FOLLOWING CORRESPONDS WITH QUESTION 14 IN THE ANSWER BOOKLET.

14. MY PRESENT BILLET TITLE IS BEST DESCRIBED AS: (SELECT ONLY ONE)

- 001 CARTOGRAPHER
- 002 CARTOGRAPHER/MAPPING CHIEF
- 003 CARTOGRAPHER/TEAM CHIEF
- 004 HYDROGRAPHIC SURVEYOR
- 005 HYDROGRAPHIC SURVEY CHIEF
- 006 MAPPING CHIEF
- 007 MAP COMPILER
- 008 OPERATIONS/MAPPING CHIEF
- 009 PHOTOTOPOGRAPHER
- 010 PHOTOTOPOGRAPHIC CHIEF
- 011 SURVEYOR
- 012 SURVEY CHIEF
- 013 SURVEY/CARTOGRAPHER CHIEF
- 014 SURVEY/MAPPING CHIEF
- 015 SURVEY/PHOTOGRAPHIC CHIEF
- 016 TOPOGRAPHIC DRAFTSMAN
- 017 TOPOGRAPHIC SURVEYOR
- 018 TOPOGRAPHIC SURVEY CHIEF
- 019 TOPOGRAPHIC/HYDROGRAPHIC SURVEYOR
- 020 CONSTRUCTION DRAFTSMAN
- 021 CONSTRUCTION DRAFTSMAN/DRIVER
- 022 CONSTRUCTION DRAFTING CHIEF
- 023 CONSTRUCTION SURVEYOR
- 024 CONSTRUCTION SURVEY CHIEF
- 025 DRAFTSMAN
- 026 DRAFTING CHIEF
- 027 SURVEY/DRAFTING CHIEF

RESPOND TO THE FOLLOWING QUESTION IN BLOCK 15 ON PAGE 3 OF THE ANSWER BOOK.

15. WHAT TYPES OF SURVEY DO YOU PERFORM? (SELECT ONE OR MORE)
- 1. TOPOGRAPHIC
  - 2. CONSTRUCTION
  - 3. HYDROGRAPHIC

RESPOND TO THE FOLLOWING QUESTION IN BLOCK 16 ON PAGE 3 OF THE ANSWER BOOK.

16. WHAT IS THE HIGHEST LEVEL OF SURVEY YOU PERFORM?
- 01. FIRST ORDER SURVEY
  - 02. SECOND ORDER SURVEY
  - 03. THIRD ORDER SURVEY
  - 04. FOURTH ORDER SURVEY

RESPOND TO THE FOLLOWING QUESTION IN BLOCK 17 ON PAGE 3 OF THE ANSWER BOOK.

17. HOW MANY DEPLOYMENTS HAVE YOU MADE IN THE PAST YEAR?

RESPOND TO THE FOLLOWING QUESTION IN BLOCK 18 ON PAGE 3 OF THE ANSWER BOOK.

18. ARE YOU REQUIRED TO HAVE A GOVERNMENT DRIVERS LICENSE?

QUESTIONS 19 THROUGH 24 ARE NOT APPLICABLE.

RESPOND TO THE FOLLOWING QUESTION IN BLOCK 25 ON PAGE 3 OF THE ANSWER BOOK.

25. WHAT IS THE AVERAGE LENGTH OF TIME SPENT PER DEPLOYMENT?  
(ANSWER IN TERMS OF MONTHS ONLY)

QUESTIONS 26 THROUGH 38 ARE NOT APPLICABLE.



# PART II - TASK SECTION

## INSTRUCTIONS FOR COMPLETING PART II OF THE ANSWER BOOKLET:

READ THROUGH THE ENTIRE TASK SECTION OF THIS QUESTIONNAIRE AND FILL IN THE CIRCLE UNDER THE TASK DONE COLUMN, IN THE ANSWER BOOKLET, FOR EACH TASK STATEMENT WHICH YOU ACTUALLY PERFORM NOW IN YOUR BILLET. DO NOT FILL IN THE CIRCLES FOR TASKS THAT YOU DO NOT PERFORM. DO NOT BLACKEN THE NUMBERS TO THE RIGHT OF THE CIRCLES AT THIS TIME. SEPARATE INSTRUCTIONS WILL FOLLOW FOR THAT PART OF THE QUESTIONNAIRE AFTER YOU HAVE COMPLETED MARKING THE TASKS THAT YOU DO.

## E X A M P L E

### QUESTIONNAIRE BOOKLET

### ANSWER BOOKLET

### TASK DONE

0001	TASK	●	0 0 0 1	1 2 3 4 5 6 7
0012	TASK	0	0 0 1 2	1 2 3 4 5 6 7
0035	TASK	●	0 0 3 5	1 2 3 4 5 6 7

THE TASKS PERFORMED IN YOUR PRESENT BILLET NOS FOLLOW:

1. DETERMINE/IDENTIFY SURVEY RESTRICTIONS
2. DETERMINE/IDENTIFY SURVEY METHODS AND PROCEDURES
3. PREPARE SURVEY SOP AND DIRECTIVES
4. DETERMINE SURVEY PARTY PERSONNEL REQUIREMENTS
5. BRIEF SURVEY PARTY MISSION
6. PLAN/ORGANIZE SURVEY WORK SCHEDULES
7. DIRECT ESTABLISHMENT/DISPLACEMENT OF BASE CAMPS
8. INSTRUCT/TRAIN PERSONNEL IN TRIANGULATION TECHNIQUES
9. SUPERVISE PERSONNEL PERFORMING TRIANGULATION
10. SUPERVISE PERSONNEL CONSTRUCTING SURVEY AIDS SUCH AS  
TOWERS/SIGNALS/TARGETS
11. INSTRUCT/TRAIN PERSONNEL IN TRAVERSE TECHNIQUES
12. SUPERVISE PERSONNEL PERFORMING TRAVERSE
13. INSTRUCT/TRAIN PERSONNEL IN OFFICE RECONNAISSANCE  
TECHNIQUES
14. INSTRUCT/TRAIN PERSONNEL IN FIELD RECONNAISSANCE TECHNIQUES
15. SUPERVISE PERSONNEL CONDUCTING INITIAL STUDY OF AREA
16. INSTRUCT/TRAIN PERSONNEL IN TRILATERATION TECHNIQUES
17. SUPERVISE PERSONNEL PERFORMING TRILATERATION PROCEDURES
18. INSTRUCT/TRAIN PERSONNEL IN LEVELING TECHNIQUES
19. INSTRUCT/TRAIN PERSONNEL IN MAPPING TECHNIQUES
20. INSTRUCT/TRAIN PERSONNEL IN DISTANCE MEASURING TECHNIQUES
21. INSTRUCT/TRAIN PERSONNEL IN ANGLE/DIRECTION MEASURING  
TECHNIQUES
22. INSTRUCT/TRAIN PERSONNEL IN ASTRONOMIC AZIMUTH OBSERVATION  
TECHNIQUES

23. INSTRUCT/TRAIN PERSONNEL IN ASTRONOMIC POSITION OBSERVATION  
TECHNIQUES
24. INSTRUCT/TRAIN PERSONNEL IN TOPOGRAPHIC (TOPO) SURVEY  
RECORDING TECHNIQUES
25. INSTRUCT/TRAIN PERSONNEL IN PLANETABLE SURVEY TECHNIQUES
26. INSTRUCT/TRAIN PERSONNEL IN TOPO SURVEY COMPUTATION  
TECHNIQUES
27. INSTRUCT/TRAIN PERSONNEL IN SURVEY EQUIPMENT OPERATOR  
MAINTENANCE TECHNIQUES
28. SUPERVISE PERSONNEL CALIBRATING PRECISE HYDROGRAPHIC  
SURVEY EQUIPMENT
29. SUPERVISE PERSONNEL ADJUSTING PRECISE SURVEY EQUIPMENT
30. INSTRUCT/TRAIN PERSONNEL IN HYDROGRAPHIC SURVEY TECHNIQUES
31. SUPERVISE PERSONNEL PERFORMING HYDROGRAPHIC SURVEY  
PROCEDURES
32. SUPERVISE PERSONNEL OPERATING SURVEY EQUIPMENT
33. SUPERVISE PERSONNEL CLEARING SIGHT LINES/TERRAIN
34. SUPERVISE PERSONNEL PREPARING PROJECT DATA FOR SUBMISSION
35. COMPLETE SURVEY FIELD COMPUTATIONS
36. VERIFY SURVEY FIELD NOTES
37. VERIFY SURVEY FIELD COMPUTATIONS
38. CHECK CONFORMITY OF COMPUTATIONS WITH SURVEY SPECIFICATIONS
39. CHECK CONFORMITY OF RECORDINGS WITH SURVEY SPECIFICATIONS
40. PREPARE TERRAIN STUDIES/REPORTS
41. PUBLISH SURVEY RESULTS
42. INSPECT PRELIMINARY FIELD BY AIR/GROUND RECONNAISSANCE  
FOR GEOGRAPHIC CHARACTERISTICS
43. INSTRUCT/TRAIN PERSONNEL IN EARTHWORK PLOTTING/COMPUTING  
TECHNIQUES

44. COORDINATE SURVEY AND CONSTRUCTION WORK
45. VERIFY ACCURACY OF EARTHWORK COMPUTATIONS
46. DETERMINE LOGISTIC SUPPORT REQUIREMENTS ALONG SURVEY ROUTE
47. PREPARE SURVEY SPECIFICATIONS
48. PLAN/LAY OUT MAIN TRIANGULATION NET
49. COORDINATE SURVEY AND COMPUTATION WORK
50. PREPARE TRIG LISTS
51. MAINTAIN TRIG LISTS
52. DISSEMINATE TRIG LISTS
53. PERFORM LIAISON WITH AGENCIES EXTERNAL TO USMC
54. MAINTAIN MAP STORAGE FACILITIES
55. PROCURE MAPS
56. SUPERVISE PERSONNEL MAINTAINING THE MAPPING, CHARTING AND  
GEODICY FACILITY
57. PERFORM TERRAIN STUDY
58. DETERMINE SURVEY EQUIPMENT TO BE EMBARKED ABOARD SHIP
59. PREPARE BUDGET FOR SURVEY MISSIONS
60. REVIEW REQUEST FOR SPECIAL DRAFTING PROJECTS
61. EDIT CHARTS AND GRAPHS
62. EDIT WORKING DRAWINGS
63. EDIT ARCHITECTURAL DRAWINGS
64. REVIEW HORIZONTAL CONSTRUCTION DRAWING ASSIGNMENT
65. DETERMINE DRAFTING EQUIPMENT TO BE EMBARKED ABOARD SHIP
66. EDIT HORIZONTAL CONSTRUCTION DRAWINGS
67. EDIT UTILITY SYSTEMS DRAWINGS

68. CHECK SCRIBE SHEET IMAGE FOR QUALITY/ACCURACY
69. EDIT COLOR PROOFS
70. EDIT MAPS PRIOR TO REPRODUCTION
71. SUPERVISE PERSONNEL PERFORMING CARTOGRAPHIC FIELD CLASSIFICATION DUTIES
72. SUPERVISE PERSONNEL PERFORMING PHOTOMOSAIC/PHOTOMAPS COMPILATION DUTIES
73. SUPERVISE PERSONNEL PERFORMING PLANIMETRIC MAP DATA COMPILATION DUTIES
74. CHECK ACCURACY OF SCRIBING
75. VERIFY FIELD CLASSIFICATION DATA
76. EDIT AERIAL MOSIACS
77. INSTRUCT PERSONNEL IN CARTOGRAPHIC QUALITY CONTROL PROCEDURES/TECHNIQUES
78. SUPERVISE PERSONNEL PERFORMING QUALITY CONTROL DUTIES
79. EVALUATE QUALITY CONTROL PROGRAM RESULTS
80. CHECK EDIT CORRECTIONS
81. PREPARE SUPPLEMENTAL CARTOGRAPHIC INSTRUCTIONS
82. VERIFY CARTOGRAPHIC PRODUCTS
83. SUPERVISE PERSONNEL PREPARING CARTOGRAPHIC VANS FOR EMBARKATION ABOARD SHIPS
84. DETERMINE METHOD OF REVISING CARTOGRAPHIC PRODUCTS
85. PREPARE SURVEY INFORMATION FILES
86. MAINTAIN SURVEY INFORMATION FILES
87. DISSEMINATE SURVEY INFORMATION FILES
88. COMPILE/CONSOLIDATE TOPO SURVEY TECHNICAL REPORTS
89. DETERMINE STATIONS TO BE REOBSERVED

90. ENTER SURVEY DATA INTO THE FIELD NOTEBOOK
91. PREPARE TOPO SURVEY RESULTS
92. PERFORM OFFICE RECONNAISSANCE OF AREA TO BE SURVEYED
93. SELECT SURVEY ROUTE
94. LOCATE/RECOVER EXISTING SURVEY CONTROL STATIONS/POINTS
95. SELECT NEW SURVEY CONTROL STATIONS/POINTS
96. MARK PROPOSED STATION SITE
97. ESTABLISH AZIMUTH MARK AT EACH STATION
98. DETERMINE ADDITIONAL SURVEY CONTROL REQUIREMENTS
99. SELECT BASELINE FOR TRIANGULATION FIGURE
100. DETERMINE VERTICAL/HORIZONTAL REFRACTION
101. DETERMINE STRENGTH OF FIGURE
102. DETERMINE OBSTRUCTION HEIGHT
103. ESTABLISH STATION ZERO
104. SELECT PRIMARY BENCHMARK
105. SELECT/PLACE LEVEL TIES
106. SELECT INTERSECT STATIONS
107. CLEAR SIGHT LINES
108. CONSTRUCT SURVEY AIDS SUCH AS SIGNALS/TOWERS/TARGETS
109. INSTALL STATION MARKERS
110. DIRECT LEVELING OPERATIONS
111. SELECT LEVEL STARTING/TURNING/CLOSING POINTS
112. PLACE STATION MARKERS ALONG LEVEL LINE
113. ESTABLISH/ADJUST HORIZONTAL LINE OF SIGHT
114. LEVEL USING DIRECT/SPIRIT METHOD

115. LEVEL USING BAROMETRIC/ALTIMETRY METHOD
116. LEVEL USING TRIGONOMETRIC METHOD
117. COMPUTE ELEVATION OF SURVEY STATIONS
118. COMPUTE REDUCTION TO CENTER FOR EXCENTRIC STATIONS
119. MEASURE ELEVATION OF POINTS ON PHOTO WITH ANALYTICAL  
POINT POSITION SYSTEM (APPS)
120. DETERMINE/APPLY CURVATURE AND REFRACTION CORRECTION
121. COMPUTE ALLOWABLE CLOSURE ERROR
122. ADJUST CLOSURE ERROR
123. PLOT ELEVATIONS TO SCALE
124. SELECT TIDE STATION SITE
125. ESTABLISH TIDAL BENCHMARKS
126. INSTALL TIDE GAUGES
127. INSTALL TIDAL STAFF
128. DETERMINE/RECORD WATER HEIGHT ON TIDAL STAFF
129. SET UP ELECTRONIC DISTANCE MEASURING EQUIPMENT (EDME)
130. MARK DISTANCE USING TAPE
131. ESTABLISH BASE LINES
132. COMPUTE BASE LINE TAPED DISTANCES
133. COMPUTE SLOPE DISTANCE FROM EDM READINGS
134. SET UP/TAKE DOWN ANGLE AND DIRECTION MEASURING EQUIPMENT
135. VERIFY INITIAL DISTANT TARGET
136. OBSERVE/MEASURE HORIZONTAL DIRECTIONS
137. OBSERVE/MEASURE VERTICAL ANGLES/ZENITH DISTANCES
138. COMPILE ABSTRACT OF HORIZONTAL DIRECTIONS

139. REPORT METEOROLOGICAL (MET) OBSERVATIONS
140. CONVERT COORDINATES FROM ONE REFERENCE SYSTEM TO ANOTHER
141. LOCATE POINTS USING TRANSIT AND STADIA METHOD
142. PLOT TOPO DETAIL ON A GRID
143. COMPILE ABSTRACT OF ZENITH DISTANCES
144. COMPUTE ANGLES SUCH AS STATION, DEFLECTION AND EXPLEMENT
145. PREPARE LIST OF DIRECTIONS
146. DETERMINE ALLOWABLE ANGULAR ERROR PER STATION
147. COMPUTE/ADJUST HORIZONTAL ANGLE ERROR AND CORRECTIONS
148. COMPUTE/ADJUST VERTICAL ANGLE ERROR AND CORRECTIONS
149. COMPUTE/ADJUST AZIMUTH ERROR AND CORRECTIONS
150. MEASURE SLOPE DISTANCES USING TAPES
151. MEASURE HORIZONTAL DISTANCES USING TAPES
152. CONVERT SLOPE DISTANCE TO HORIZONTAL DISTANCE
153. REDUCE HORIZONTAL DISTANCE TO SEA LEVEL
154. REPAIR MEASURING TAPES
155. DETERMINE DISTANCE STADIA INTERCEPT
156. MEASURE DISTANCE USING STADIA METHOD
157. MEASURE DISTANCES USING EDM
158. COMPUTE TRIANGULATION CLOSURES
159. ESTABLISH ASTRONOMIC AZIMUTH/LAPLACE STATIONS
160. PERFORM ASTRONOMIC OBSERVATION TO BE USED IN COMPUTING  
AZIMUTH AND POSITIONS
161. COMPUTE ASTRONOMIC AZIMUTH OF POSITION
162. COMPUTE ASTRONOMIC POSITION



163. COMPUTE GRID AZIMUTH OF POSITION
164. COMPUTE GRID POSITION
165. COMPUTE GEODETIC AZIMUTH OF POSITION
166. COMPUTE GEODETIC POSITION
167. SET UP PLANETABLE
168. PLOT GRID ON PLANETABLE SHEET
169. OBSERVE DISTANCE/ELEVATION OF SELECTED CONTROL POINTS,  
USING A PLANETABLE TO PROVIDE RAW PLANETABLE DATA
170. PLOT PLANIMETRIC DETAIL ON PLANETABLE SHEET
171. PLOT ELEVATIONS ON PLANETABLE SHEET
172. DRAW LOGICAL CONTOURS ON PLANETABLE SHEET
173. INSPECT SURVEY EQUIPMENT FOR PROPER ADJUSTMENT
174. PERFORM SURVEY EQUIPMENT PREVENTIVE MAINTENANCE
175. REMOVE/REPLACE SURVEY EQUIPMENT COMPONENTS
176. TEST SURVEY EQUIPMENT
177. RECORD CONSTRUCTION SITE LAYOUT FIELD NOTES/COMPUTATIONS
178. COMPUTE LATITUDES/DEPARTURES
179. OPERATE TRANSIT/THEODOLITE IN CONSTRUCTION SURVEY
180. ESTABLISH HORIZONTAL PLANE OF REFERENCE
181. ESTIMATE DECLINATION STATION
182. READ/INTERPRET CONSTRUCTION DRAWINGS AND BLUEPRINTS
183. MARK BOUNDARY OF PROPOSED ROAD PROJECT
184. ESTABLISH CONTROL/REFERENCE POINTS FOR SITE SURVEY
185. ESTABLISH CENTER LINE HORIZONTAL CURVE
186. ESTABLISH GRADE LINES FOR VERTICAL PARABOLIC CURVE

187. SET AND MARK GRADE/SLOPE/OFFSET STAKES
188. DETERMINE ELEVATIONS OF PROPOSED ROAD CENTER LINE
189. PLOT ELEVATIONS OF PROPOSED ROAD CENTER LINE
190. STAKE OUT CENTER LINE
191. ESTABLISH HEIGHT OF ABUTMENT/PIERS
192. ESTABLISH LINES FOR SETTING FORMS
193. LAY OUT WINGWALLS
194. DETERMINE PROPOSED PIER LOCATION
195. ESTABLISH POSITION OF BRIDGE PILES
196. DETERMINE LAYOUT FOR BUILDING CONSTRUCTION
197. STAKE OUT LOCATION OF BUILDING
198. LAY OUT BUILDING WITH BATTERBOARDS/NEATLINES
199. DETERMINE ELEVATION OF BUILDING FOUNDATION
200. TRANSFER GRADE FROM OUTSIDE TO INSIDE OF BUILDING
201. DETERMINE LOCATION/GRADE FOR SEWER LINES
202. STAKE OUT SEWER LINES
203. DETERMINE PERIMETER OF DRAINAGE AREA
204. DETERMINE LOCATION/PROFILE FOR DRAINAGE STRUCTURES/LINES
205. COMPUTE HORIZONTAL CURVES
206. COMPUTE VERTICAL CURVES
207. LAY OUT/STAKE CURVES
208. PREPARE ROUGH SKETCHES OF PROPOSED CONSTRUCTION SITE
209. DETERMINE PERCENT OF GRADES OF ROADS/AIRFIELDS/TERRAIN
210. DETERMINE CROSS SECTION OF ROADS/AIRFIELDS/TERRAIN
211. DETERMINE PROFILE OF ROADS/AIRFIELDS/TERRAIN

- 212. PLOT PROFILE
- 213. PLOT CROSS SECTION
- 214. COMPUTE END AREA OF CUT AND FILL EARTHWORK
- 215. LAYOUT STAKES FOR CUT AND FILL OPERATIONS
- 216. DETERMINE FINAL GRADELINES
- 217. DETERMINE TRAFFICABILITY OF AREA
- 218. PLOT CURVES TO SHOW ALIGNMENT OF ROADS
- 219. COMPUTE EARTHWORK VOLUMES
- 220. INTERPRET EARTHWORK TABLES FOR SUBORDINATES
- 221. DETERMINE QUALITIES OF EXCAVATED MATERIALS
- 222. CONDUCT UNDERGROUND SURVEY
- 223. CONDUCT LAND/PROPERTY SURVEY
- 224. COMPUTE AREAS USING DOUBLE MERIDIAN DISTANCES
- 225. PREPARE BILL OF MATERIALS (BOM) FOR BUILDINGS/STRUCTURES
- 226. SETUP DRAFTING EQUIPMENT
- 227. ENTER SCALE DATA ON DRAWINGS
- 228. LAY OUT DRAWING IN CONSTRUCTION DRAWING FORMAT
- 229. LAY OUT DRAWING IN PRODUCTION DRAWING FORMAT
- 230. READ/INTERPRET CONSTRUCTION DRAWINGS/SPECIFICATIONS
- 231. READ/INTERPRET PRODUCTION DRAWINGS/SPECIFICATIONS
- 232. COMPLETE DRAWINGS BY ENTERING LETTERS, MARGINS, AND TITLE BLOCKS
- 233. PREPARE A BILL OF MATERIALS (BOM) BLOCK
- 234. TRACE DRAWINGS
- 235. CONSTRUCT LETTER GUIDELINES

- 236. CONSTRUCT GEOMETRIC FIGURES
- 237. DEVELOP TRANSITION PIECE DRAWINGS
- 238. CONSTRUCT TRUE-LENGTH DIAGRAM
- 239. DETERMINE TYPE OF PRESENTATION FOR SKETCHES/CHARTS/GRAPHS
- 240. SELECT MATERIAL FOR PREPARING SKETCHES/CHARTS/GRAPHS
- 241. DETERMINE TYPE OF PRESENTATION FOR WORKING DRAWINGS
- 242. PREPARE TECHNICAL SKETCHES
- 243. PREPARE/UPDATE TECHNICAL CHARTS AND GRAPHS
- 244. PREPARE/UPDATE STATISTICAL CHARTS AND GRAPHS
- 245. PREPARE MAP OVERLAYS
- 246. PREPARE VUGRAPHS AND TRANSPARENCIES
- 247. PREPARE GRAPHIC TRAINING AIDS
- 248. PREPARE WORKING DRAWINGS
- 249. PREPARE WORKING PLATES FROM DRAFT DRAWINGS
- 250. REVISE WORKING DRAWINGS
- 251. LAY OUT ASSIGNMENT IN ARCHITECTURAL DRAWING FORMAT
- 252. PREPARE SITE PLANS
- 253. DRAFT BUILDING PLAN VIEWS
- 254. DRAFT BUILDING SECTION VIEWS
- 255. DRAFT BUILDING ELEVATION VIEWS
- 256. DRAFT FOUNDATION PLANS
- 257. DRAFT BUILDING DETAILS
- 258. DRAFT REINFORCED CONCRETE DETAILS
- 259. DRAFT MASONRY JOINTS AND CONNECTIONS DETAILS
- 260. DRAFT STEEL MEMBERS CONNECTIONS DETAILS

- 261. DRAFT BRIDGE PLAN VIEWS
- 262. DRAFT BRIDGE SECTION VIEWS
- 263. DRAFT BRIDGE PROFILE VIEWS
- 264. DRAFT BRIDGE CONSTRUCTION DETAILS
- 265. DRAW CONSTRUCTION SYMBOLS ON ARCHITECTURAL DRAWINGS
- 266. CORRECT ARCHITECTURAL DRAFTING ERRORS
- 267. DETERMINE TYPE OF DRAWING TO PORTRAY HORIZONTAL CONSTRUCTION
- 268. LAY OUT ASSIGNMENT IN HORIZONTAL CONSTRUCTION DRAWING FORMAT
- 269. DRAFT MASS DIAGRAMS
- 270. DRAFT EARTHWORK DIAGRAMS
- 271. DRAFT ROAD PLAN VIEWS
- 272. DRAFT ROAD SECTION VIEWS
- 273. DRAFT ROAD PROFILE/GRADELINE VIEWS
- 274. DRAFT AIRFIELD PLANS
- 275. DRAW HORIZONTAL CONSTRUCTION SYMBOLS ON DRAWINGS
- 276. MODIFY HORIZONTAL CONSTRUCTION DRAWINGS
- 277. CORRECT HORIZONTAL CONSTRUCTION DRAWING ERRORS
- 278. LAY OUT ASSIGNMENT ON UTILITIES DRAWINGS FORMAT
- 279. LOCATE UTILITY SYSTEMS ON SITE PLANS
- 280. DRAFT ELECTRIC SYSTEM DISTRIBUTION PLANS
- 281. DRAFT ELECTRIC SYSTEM WIRING PLANS
- 282. DRAFT ELECTRIC SYSTEM WIRING SCHEMATICS
- 283. DRAFT DUCT WORK PLANS FOR HEATING AND VENTILATING SYSTEMS
- 284. DRAW UTILITY SYSTEMS SYMBOLS ON PLANS

- 285. PLOT UTILITY SYSTEMS DETAILS
- 286. DRAW UTILITY SYSTEMS OVERLAYS
- 287. MODIFY UTILITY SYSTEMS DRAWINGS
- 288. CORRECT UTILITY SYSTEMS DRAWING ERRORS
- 289. DRAFT DESIGN OF WOOD STRUCTURES
- 290. DRAFT DESIGN OF CONCRETE/MASONRY STRUCTURES
- 291. DRAFT DESIGN OF ROADS
- 292. MAKE OZALID COPIES
- 293. MAINTAIN FILE OF DRAWINGS
- 294. MAINTAIN AND REVIEW WORK REQUEST SUSPENSE FILE
- 295. INSPECT DRAFTING INSTRUMENTS/MATERIALS FOR SERVICEABILITY
- 296. CLEAN AND SERVICE DRAFTING INSTRUMENTS/MATERIALS
- 297. PREPARE THREE DIMENSIONAL VIEW OF OBJECT TO BE DRAFTED
- 298. DRAW SCHEMATICS
- 299. DESIGN WOOD STRUCTURES
- 300. DESIGN CONCRETE/MASONRY STRUCTURES
- 301. DESIGN UTILITY SYSTEMS
- 302. DESIGN WIRING SYSTEMS
- 303. DESIGN HEATING/VENTILATING SYSTEMS
- 304. DESIGN BRIDGES
- 305. DESIGN ROAD SYSTEMS
- 306. EDIT AERIAL MOSIACS
- 307. DRAW STRIP MAPS
- 308. PREPARE ENGINEER SITUATION MAPS
- 309. PREPARE SITUATION OVERLAYS

- 310. PREPARE ENGINEER INTELLIGENCE OVERLAYS
- 311. PREPARE TYPE LISTS FROM COMPILATION MANUSCRIPTS/OVERLAYS
- 312. PREPARE/STICK-UP TYPE/SYMBOLS
- 313. CHECK PREPARED TYPE FOR CHARACTERISTICS SUCH AS SIZE,  
STYLE, QUANTITY AND QUALITY
- 314. PREPARE PLATES WITH PLASTIC SCRIBING EQUIPMENT
- 315. PREPARE MASKS
- 316. REGISTER COLOR SEPARATION PLATES/MASK/OVERLAYS
- 317. CONSTRUCT MILITARY GRIDS
- 318. DRAFT/SCRIBE MILITARY GRIDS
- 319. OPAQUE PORTIONS OF FILM NEGATIVES
- 320. INSPECT MAPS PRIOR TO REPRODUCTION FOR ACCURACY
- 321. SELECT AERIAL PHOTOGRAPHS OF AREA TO BE FIELD CLASSIFIED
- 322. PREPARE AERIAL PHOTOGRAPHS OF AREA TO BE FIELD CLASSIFIED
- 323. COLLECT SOURCE MATERIALS DURING FIELD INSPECTION
- 324. IDENTIFY AND PHOTOGRAPH SELECTED FEATURES
- 325. CLASSIFY FIELD CLASSIFICATION DATA
- 326. PREPARE FIELD CLASSIFICATION REPORTS
- 327. PREPARE FIELD SKETCHES
- 328. SELECT PHOTOGRAPHIC PRINTS FOR PHOTOMOSAIC/PHOTOMAPS
- 329. DETERMINE AREA PHOTOMOSAIC/PHOTOMAP SCALES
- 330. PREPARE MOSAIC BASES
- 331. RETOUCH MOSAICS
- 332. PREPARE MOSAIC OVERLAYS
- 333. PREPARE COMPILATION BASES

- 334. DETERMINE/ADJUST SOURCE MATERIAL SCALES
- 335. COMPILE SELECTED OVERLAYS
- 336. REQUEST SELECTED SOURCE REPRODUCTIONS
- 337. INSPECT REPRODUCED SOURCES FOR SIZE/QUALITY
- 338. CUT AND PANEL REPRODUCED SOURCES
- 339. DELINEATE AERIAL PHOTOGRAPHY
- 340. SELECT FEATURES TO BE COMPILED
- 341. TRANSFER FEATURE TO COMPILATION BASES
- 342. SYMBOLIZE/LABEL FEATURES ON COMPILATION BASES
- 343. REGISTER OVERLAYS TO COMPILATION BASES
- 344. COMPILE MARGINAL INFORMATION
- 345. DETERMINE CRITICAL POINTS FOR LOGICAL CONTOURING
- 346. DETERMINE ELEVATION OF CRITICAL POINTS
- 347. DRAW LOGICAL CONTOURS
- 348. DRAW RIDGE LINES
- 349. EDIT COMPILATION CORRECTIONS
- 350. INTERPRET MARGINAL INFORMATION ON MAPS
- 351. IDENTIFY FEATURES BY SYMBOLS AND COLORS
- 352. DETERMINE LOCATION OF FEATURES BY GEOGRAPHIC/GRID REFERENCE
- 353. DETERMINE SCALE OF MAPS
- 354. DETERMINE DISTANCE ON MAPS
- 355. DETERMINE ELEVATIONS BY CONTOURS AND PLOT ELEVATIONS
- 356. DETERMINE DIRECTION OF AZIMUTH WITH PROTRACTOR/COMPASS
- 357. DETERMINE LOCATION BY INTERSECTION AND RESECTION ON MAPS
- 358. INTERPRET MARGINAL INFORMATION ON AERIAL PHOTOGRAPHS



- 359. IDENTIFY FEATURES ON AERIAL PHOTOGRAPHS
- 360. DETERMINE LOCATION OF FEATURES WITH POINT DESIGNATION GRID
- 361. PREPARE PERSPECTIVE GRID FOR AERIAL PHOTOGRAPHS
- 362. PLOT PRINCIPAL POINTS ON AERIAL PHOTOGRAPHS
- 363. TRANSFER PRINCIPAL POINTS ON AERIAL PHOTOGRAPHS
- 364. DETERMINE SCALE OF AERIAL PHOTOGRAPHS
- 365. DETERMINE DISTANCE ON AERIAL PHOTOGRAPHS
- 366. DETERMINE ELEVATION OF A POINT ON AERIAL PHOTOGRAPHS
- 367. DETERMINE LOCATION OF FEATURES BY INTERSECTION AND RESECTION ON AERIAL PHOTOGRAPHS
- 368. PREPARE AERIAL PHOTOGRAPH INDEX
- 369. CHECK COMPLETED PHOTOGRAPHIC PRINTS FOR QUALITY
- 370. EVALUATE AERIAL PHOTOGRAPHY TO DETERMINE SUITABILITY FOR CARTOGRAPHIC USE
- 371. PLAN GROUND CONTROL FOR PHOTOGRAPHS
- 372. PROCURE SOURCE MATERIALS FOR COMPILING NEW MAPS
- 373. MAINTAIN QUALITY CONTROL DOCUMENTS LIBRARY
- 374. COMPILE EDIT CORRECTION LISTS
- 375. PERFORM MINOR CARTOGRAPHIC EDITS
- 376. CHECK GRID ACCURACY
- 377. COMPUTE GRID AND DECLINATION FOR NEAT LINE
- 378. CHECK PLOTTING OF HORIZONTAL AND VERTICAL CONTROL
- 379. REVIEW ALL MARGINAL DATA
- 380. REVIEW MAPPED FEATURES
- 381. CHECK FOR CORRECT SYMBOLIZATION
- 382. PERFORM PRINTING EDIT

- 383. PERFORM SECOND EDIT
- 384. MAINTAIN AERIAL PHOTOGRAPHIC LIBRARY
- 385. MAINTAIN MAP SUBSTITUTE/REVISION LIBRARY
- 386. MAINTAIN SCRIBING EQUIPMENT
- 387. PERFORM PREVENTATIVE MAINTENANCE ON CARTOGRAPHIC VANS
- 388. OPERATE TACTICAL MOTOR VEHICLES
- 389. OPERATE SMALL CRAFT FOR HYDROGRAPHIC SURVEYS
- 390. MAINTAIN EQUIPMENT BATTERIES
- 391. CHARGE EQUIPMENT BATTERIES
- 392. TEST EQUIPMENT BATTERIES
- 393. PREPARE GENERATORS FOR OPERATION
- 394. OPERATE GENERATORS
- 395. PERFORM PREVENTIVE MAINTENANCE ON GENERATOR
- 396. PREPARE EQUIPMENT FOR EMBARKATION ABOARD AIRCRAFT
- 397. PREPARE EQUIPMENT FOR EMBARKATION ABOARD SHIP

NOW THAT YOU HAVE FOUND ALL THE TASKS THAT YOU PERFORM IN YOUR  
PRESENT BILLET AND HAVE FILLED IN THE APPROPRIATE CIRCLES,  
READ THE FOLLOWING INSTRUCTIONS ON HOW TO TIME RATE THE  
TASKS YOU PERFORM.

PART II - TASK SECTION(CONTINUED)

INSTRUCTIONS FOR TIME RATING THE TASKS YOU HAVE INDICATED YOU PERFORM

YOU ARE NOW READY TO TIME RATE EACH TASK THAT YOU HAVE MARKED THAT YOU CURRENTLY PERFORM. TO RATE THE RELATIVE AMOUNT OF TIME SPENT ON EACH TASK, YOU MUST FIRST DECIDE HOW MUCH TIME YOU SPEND ON EACH TASK. THEN COMPARE THIS TIME WITH THE AMOUNT OF TIME SPENT ON EACH OF THE OTHER TASKS THAT YOU HAVE CHECKED.

RECORD THE RELATIVE TIME SPENT FOR EACH TASK THAT YOU HAVE MARKED USING THE "SEVEN-POINT" TIME SPENT SCALE SHOWN BELOW.

TIME SPENT

1. VERY LITTLE
2. BELOW AVERAGE
3. SLIGHTLY BELOW AVERAGE
4. AVERAGE
5. SLIGHTLY ABOVE AVERAGE
6. ABOVE AVERAGE
7. VERY MUCH

REMEMBER, IF YOU SPEND VERY MUCH TIME PERFORMING A PARTICULAR TASK IN COMPARISON TO OTHER TASKS YOU PERFORM, THE TASK SHOULD BE RATED A 7 (VERY MUCH) IN THE ANSWER BOOKLET. THE FOLLOWING EXAMPLES WILL SHOW YOU HOW TO MARK YOUR ANSWERS. THE FIRST TASK WAS DONE VERY MUCH. THE SECOND TASK WAS NOT CHECKED OR TIME RATED BECAUSE IT WAS NOT PERFORMED. THE THIRD TASK WAS RATED AS BEING PERFORMED BELOW AVERAGE.

# TIME SPENT

1. VERY LITTLE
2. BELOW AVERAGE
3. SLIGHTLY BELOW AVERAGE
4. AVERAGE
5. SLIGHTLY ABOVE AVERAGE
6. ABOVE AVERAGE
7. VERY MUCH

## EXAMPLES

### QUESTION BOOKLET

### ANSWER BOOKLET

#### TASK DONE

0001	TASK	●	0 0 0 1	1 2 3 4 5 6 ●
0012	TASK	0	0 0 1 2	1 2 3 4 5 6 7
0035	TASK	●	0 0 3 5	1 ● 3 4 5 6 7

TURN BACK TO PAGE 5 OF THE ANSWER BOOKLET AND RECORD THE RELATIVE TIME SPENT FOR EACH TASK THAT YOU HAVE MARKED.

AGAIN, DO NOT TIME RATE TASKS YOU DO NOT PERFORM. DO NOT DARKEN MORE THAN ONE NUMBER FOR ANY TASK THAT YOU RATE.

AFTER YOU HAVE COMPLETED PART II YOU MAY CONTINUE ON TO PARTS IV AND V.

PART IV & V - WRITE-IN/REMARKS SECTIONS

INSTRUCTIONS FOR SECTIONS IV AND V OF THE ANSWER BOOKLET:

THESE SECTIONS ASK FOR HAND WRITTEN COMMENTS, RECOMMENDATIONS AND SUGGESTIONS ABOUT YOUR TRAINING, MOS, AND JOB. YOU MUST WRITE ON THE TOP OF PAGE 15 YOUR RANK AND BILLET MOS.

HANDWRITTEN COMMENTS AND RECOMMENDATIONS RECEIVED FROM MARINES WHO HAVE PARTICIPATED IN SIMILAR SURVEYS HAVE BEEN EXTREMELY VALUABLE FOR PERSONNEL AND TRAINING MANAGERS. YOUR PARTICIPATION IN PROVIDING "FEEDBACK" TO THE MARINE CORPS ABOUT YOUR TRAINING, YOUR JOB, AND THIS QUESTIONNAIRE IS ENCOURAGED AND GREATLY APPRECIATED.

X X X X A X A X X X X

WHEN YOU HAVE COMPLETED THESE FINAL 2 SECTIONS, RETURN YOUR QUESTIONNAIRE AND ANSWER BOOKLET TO THE ADMINISTRATOR.

THANK YOU FOR YOUR TIME AND PARTICIPATION IN THIS SURVEY. YOU CAN BE ASSURED THAT THE INFORMATION PROVIDED BY YOU, ALONG WITH YOUR PERSONAL COMMENTS AND RECOMMENDATIONS, WILL BE KEPT CONFIDENTIAL AND WILL BE USED TO IMPROVE THE MANPOWER AND TRAINING ASPECTS OF THE MARINE CORPS.